

REMARKS

The Applicant appreciates the Examiner's careful examination of this case. Reconsideration and re-examination are respectfully requested in view of the instant remarks.

With regard to paragraph 2 of the Office Action, the Applicant was obliged to the Examiner for acknowledging receipt of the papers submitted under 35U.S.C.119(a)-(d).

With regard to paragraph 3 of the Office Action, the Applicant was obliged to the Examiner for accepting the drawings submitted on December 28, 2001.

In paragraphs 4 – 6 of the Office Action, claims 1 and 3 have been rejected as being unpatentable over Turner et al (U.S. Patent No. 6,437,759) in view of Amery et al (U.S. Patent No. 6,152,739), and further in view of Covannon et al (U.S. Patent No. 6,543,899). The Applicant respectfully disagrees with this rejection of claims 1 and 3. More specifically, the Examiner agrees at page 4 lines 5 – 7 of the Office Action that Turner et al does not disclose (i) a real-world vehicle whose controls and instruments are dual-mode such that they can be switched between normal operation and simulated operation. The Examiner also agrees at page 4 line 20 – page 5 line 1 that Turner et al does not disclose (ii) a retro-reflecting screen which is deployed around and outside windows of a control area of the vehicle, which control area is for a person operating the simulator.

The Examiner states at Section 6.1 on page 3 that Turner et al discloses the remainder of the features of the Applicant's claim 1. This does not appear to be the case. More specifically, it is believed that Turner et al does not disclose the Applicant's claim 1 feature (iii). At Section 6.1 on page 3 of the Office Action, the Examiner states that Turner et al discloses this feature (iii) of an image projector for being mounted on a head or headwear of the operator, and the Examiner supports this by reference to claim 1 lines 16 – 18 and Figure 4 of Turner et al.

It is agreed that Turner et al discloses a vehicle simulator (i.e. an aircraft simulator) having a head-up display. Figure 4 of Turner et al shows the type of head-up display being used. This head-up display is actually provided by a head-up display projector 42B, shown in Figure 4. This projector 42B for providing the head-up display is located behind a rear projection screen 48. The user 19 indicated in Figure 4 is on the opposing side of the rear projection screen 48. Therefore Turner et al does not disclose an image projector which is mounted on a head or headwear of the operator, as required by feature (iii) in the Applicant's claim 1.

Thus Turner et al does not teach the Applicant's claim 1 features (i), (ii) and (iii). With Turner et al not disclosing three of the Applicant's claim 1 features, it is respectfully submitted that care must be taken in combining Turner et al with other patents in order to try and show that the three features missing from Turner et al are all obvious features which would be non-inventively combinable with the Turner et al disclosure.

For feature (i), the Examiner refers to Amery et al. The Examiner says that Amery et al col. 1 at lines 40 - 47 discloses feature (i) because Amery et al allows providing input to the visual display system in simulation mode in response to the displayed video images. The operator can simulate the flight of an aircraft and can respond the environment as depicted by the visual display. The Applicant respectfully disagrees with the Examiner and respectfully submits that Amery et al at col. 1 lines 40 - 47 does not teach a real-world vehicle whose controls and instruments are dual-mode as required by the Applicant's claim 1 feature (i).

Col. 1 lines 40 - 47 of Amery et al teach a "conventional flight simulator" including a control panel and a control stick and throttle for providing input to the visual display. Amery et al goes on to say that the control panel and surrounding pilot environments are often "realistic simulations" of the controls and displays present in the actual aircraft. This clearly signifies that the simulator does not include a real-world vehicle which is dual-mode, but is in fact a realistic simulation of the controls and displays present in a real aircraft.

The simulator disclosed by Amery et al is therefore not a real-world vehicle but is in fact a simulated vehicle, that is a simulator constructed such that the controls and displays appear to the user to be identical to those which would be present in a like real-world vehicle. Amery et al does not teach a real-world vehicle whose controls and instruments are dual-mode.

In the Applicant's invention, the real world vehicle may be, for example, a real aircraft, a real truck, or a real ship. All these real-world vehicles are fully functional real-world vehicles. In the Applicant's drawings, the real-world vehicle disclosed by way of example is an aircraft and this aircraft is an actual aircraft in which the pilot flies. In the case of a truck, the real-world vehicle would be an actual truck in which the driver drives. The Applicant's Figure 1 is stated in the Applicant's specification to show ".....a front portion of a fully functional real-world aircraft 1 in its hanger 2.". The cockpit is an actual aircraft cockpit. Therefore the controls and displays contained within the cockpit are the controls and displays by which the pilot will fly the actual aircraft.

The dual-mode functionality of the Applicant's invention includes a first mode of operation by which the controls and displays are used conventionally as part of the real-world fully functional vehicle, and a second mode of operation which is a mode in which the controls and displays of the real-world fully functional vehicle are used to interact with the display system, in particular the video images which are provided when the real-world vehicle is in the second simulated or training mode. In this second mode of operation, the real-world vehicle does not operate as a fully-functional vehicle but instead operates as the interface with the simulated environment.

The Examiner's position as expressed on page 4 of the Office Action is as follows:

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the vehicle simulator of Turner et al with the vehicle simulator of Amery et al that included (i) a real-world vehicle whose controls and instruments were dual-mode such that they could be switched between normal operation and simulated operation. The artisan would have been motivated because that would allow providing inputs to the visual display system in simulation mode in response to the displayed video images; the operator could simulate the flight of an aircraft and could respond to the environment as depicted by the visual display.

It is however noted that the combination of Turner et al with Amery et al would not provide the Applicant's invention as neither Turner et al nor Amery et al discloses using a real-world fully functional vehicle with dual-mode of operation of the controls and displays associated with such a real-world vehicle. The dual-modes of operation identified by the Examiner as stated in the above quotation are a first mode in which the operator could simulate the flight of an aircraft, and a second mode in which the operator could respond to the environment as depicted by the visual display. This is not the dual-modes of operation claimed in the Applicant's claim 1.

For the Applicant's feature (ii), the Examiner refers to Covannon et al. In this connection, attention is drawn to the fact that the Examiner has agreed at page 4 lines 5 – 7 of the Office Action that Turner et al does not expressly teach the Applicant's feature (i) of a real-world vehicle whose controls and instruments are dual-mode such that they can be switched between normal operation and simulated operation. It is therefore believed that it would not be obvious to one of ordinary skill in the art to modify Turner et al in the light of Covannon et al, as Turner et al does not disclose a real-world vehicle.

In summary, it is respectfully submitted that the Examiner's combination of Turner et al, Amery et al and Covannon et al does not provide the Applicant's features (i), (ii) and (iii). The Applicant's claim 1 is thus believed to be both novel and inventive.

With regard to Section 6.2 on page 5 of the Office Action, the Applicant relies for patentability of claim 3 on the fact that claim 3 includes all of the features of claim 1, and claim 1 is believed to be allowable for the above stated reasons.

In paragraph 7 of the Office Action, the Examiner rejects the Applicant's claim 2 over a combination of Turner et al, Amery et al, Covannon et al and Huston et al. Apart from the above mentioned missing features when Turner et al, Amery et al, and Covannon et al are combined, it is respectfully submitted that the need to combine four patents together in order to reject a claim on obviousness is itself a clear indication that the claim is not only novel but is inventive.

With regard to paragraph 8 of the Office Action, the comments made above in connection with paragraph 7 of the Office Action apply even more to the Examiner's rejection of claim 5 as set out in paragraph 8 of the Office Action. More specifically, the Examiner is combining no less than five patent specifications in order to support his argument of obviousness, namely Turner et al with Amery et al, Covannon et al, Larussa (U.S. Patent No. 6,163,408) and Pollack (U.S. Patent No. 6,106,298). The combination of five USA patents in order to indicate that a claim is obvious must surely by any standard be regarded as a strong indication that the claim is not only novel but is inventive. This is apart from the fact that the combination of Turner et al, Amery et al and Covannon et al does not actually give the combination believed by the Examiner, as detailed above.

With regard to paragraph 9 of the Office Action, claim 6 has been rejected over a combination of Turner et al, Amery et al, Covannon et al and Streid (U.S. Patent No. 6,196,845). The deficiencies mentioned above in the combination of Turner et al, Amery et al and Covannon et al are noted, as is the need to combine four patent specifications in order to support the Examiner's position. Claim 6 is believed to be clearly inventive.

With regard to paragraph 10 of the Office Action, claim 7 has been rejected as being obvious over a combination of Turner et al, Amery et al, Covannon et al and Shaffer et al (U.S. Patent No. 6,050,690). Again the

Applicant relies for patentability of claim 7 on the fact that the Examiner's combination of Turner et al, Amery et al and Covannon et al does not give the combination believed by the Examiner, and also on the fact that the need to combine no less than four patents together is a clear indication that the claim is inventive.

With regard to paragraph 11 of the Office Action, the Examiner has rejected claim 8 over a combination of Turner et al, Amery et al, Covannon et al and Blackham (U.S. Patent No. 6,735,015). Again the Applicant relies for patentability of claim 8 on the fact that the combination of Turner et al, Amery et al and Covannon et al does not give the combination relied upon by the Examiner. The Applicant also relies upon the fact that the need to combine no less than four patents together is a clear indication that claim 8 contains inventive subject matter.

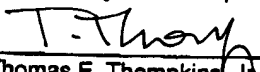
With regard to paragraph 12 of the Office Action, the Applicant was much obliged to the Examiner for kindly indicating that claim 4 would be allowable if rewritten in independent form. For the reasons expressed above, the Applicant respectfully believes that he is entitled to a little broader protection than is offered by claim 4 and it is hoped that the Examiner will agree with this.

The other patents listed in the Office Action and not specifically mentioned by the Examiner have all been carefully considered. They are not believed to affect the above submissions, nor the allowability of the claims.

Accordingly, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this **RESPONSE** is found to be **INCOMPLETE**, or if at any time it appears that a **TELEPHONE CONFERENCE** with Counsel would help advance prosecution, please telephone the undersigned or one of his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,


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